



# TRAVELING WITHIN THE FUNGAL NETWORK

## Background

Fungi develop complex networks that function as highways along which nutrients can travel over large distances, in a process known as translocation. The translocation of nutrients is extremely effective, which is one of the reasons why fungi succeed in surviving and expanding even in harsh environmental conditions, involving for instance radiation or extreme temperatures. Although the rate at which nutrients can be translocated within the fungal network is known to be a key factor influencing fungal dynamics, only a few techniques have been used so far to study this process. Some of these techniques require expensive machinery or complex experimental set-ups making it impossible to study translocation across many species or under different environmental conditions. In addition, some of these techniques use substances that impact fungal growth which might blur results.

At Ghent University, we developed a novel experimental set-up that allows for tracking fungal growth by using images of growing fungal networks in the laboratory with inexpensive imaging machinery. We believe this set-up could be tuned to study translocation, as such opening new avenues of study.



## Goal of the thesis

The goal of this thesis is to study the translocation process occurring within fungi using image analysis. Ultimately, the acquired data will be used for the calibration and extension of a spatially explicit model for fungal growth.

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